

REMARKS

Claims 1-27 are pending in the application. Claims 5, 6, 8, 9, 16, and 17 have been withdrawn from consideration. New claim 27 has been added.

Claim Rejections – 35 U.S.C. § 103

(a) Claims 1, 2, 7, 10, 13, 19, 20, and 22-26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Poole et al. (USP 5,386,775) in view of Kishi et al. (USP 4,021,275). This rejection is respectfully traversed.

Claims 1 and 2 are independent.

Poole discloses a gas generant composition including silica and aluminum hydroxide.

Kishi discloses the use of glass with silica.

Neither Poole nor Kishi, however, discloses or suggest “a binder being at least one selected from the group consisting of carboxymethyl cellulose, sodium carboxymethylcellulose, potassium carboxymethylcellulose, carboxymethylcellulose ammonium, cellulose acetate, cellulose acetate butyrate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylamide, an aminated product of polyacrylamide, polyacryl hydrazide, a copolymer of an acrylamide and a metal acrylate, a copolymer of polyacrylamide and a polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, and silicone.”

Accordingly, Pool and Kishi taken singly or in combination fail to disclose or suggest the “binder” as recited in claims 1 and 2.

The rejected dependent claims, variously dependent on claim 1 or 2, are allowable at least for their dependency claim 1 or 2.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(b) Claims 3, 4, 11, 14, 15, and 18-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Poole et al. in view of Kishi et al., in further view of Hinshaw et al. (USP 5,241,281). This rejection is respectfully traversed.

Claim 15 is independent.

Hinshaw does not affect the patentability of claims 1 and 2 at least for the following reasons.

As stated in the foregoing with regard to claims 1 and 2, both Poole and Kishi fail to disclose or suggest the “binder” as recited in claims 1 and 2.

Hinshaw states in the Abstract that “A binder and co-oxidizer can be combined with the metal complexes to improve crush strength of the gas generating compositions and to permit efficient combustion of the binder.”

Hinshaw also states in col. 7, line 66 – col. 8, lines 12 that “Typical binders used in the gas generating compositions of the present invention include binders conventionally used in propellant, pyrotechnic and explosive compositions including, but not limited to, lactose, boric acid, silicates including magnesium silicate, polypropylene carbonate, polyethylene glycol, naturally occurring gums such as guar gum, acacia gum, modified celluloses and starches . . . , polyacrylic acids, nitrocellulose, polyacrylamide, polyamides, including nylon, and other conventional polymeric binders.”

Hinshaw, however, fails to disclose or suggest “a binder being at least one selected from the group consisting of carboxymethyl cellulose, sodium carboxymethylcellulose, potassium carboxymethylcellulose, carboxymethylcellulose ammonium, cellulose acetate, cellulose acetate butyrate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylamide, an aminated product of polyacrylamide, polyacryl hydrazide, a copolymer of an acrylamide and a metal acrylate, a copolymer of polyacrylamide and a polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, and silicone.”

Accordingly, Pool, Kishi, and Hinshaw taken singly or in combination fail to disclose or suggest the “binder” as recited in claims 1 and 2.

Claim 15 is allowable at least for the similar reasons as stated in the foregoing.

The rejected dependent claims, variously dependent on claim 1, 2, or 15, are allowable at least for their dependency claim 1, 2, or 15.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

Allowable Subject Matter

Applicants appreciate the Examiner’s indication that claim 12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 has been amended to include all of the limitations of claims 1 and 3 to place it in condition for allowance.

Application No.: 10/695,759
Reply dated May 8, 2006
to Office Action of February 10, 2006
Page 16 of 17

Docket No.: 0425-1062P

Further, new claim 27, which includes all of the limitations recited in claims 2, 3, and 12 has been added.

A favorable determination by the Examiner and allowance of claims 12 and 27 is earnestly solicited.

Claims Withdrawn From Consideration

The Examiner is respectfully requested to allow all the claims withdrawn from consideration, once all the claims under consideration have been found allowable over the prior art of record.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and objections, and allowance of the pending claims are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Maki Hatsumi (#40,417) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No.: 10/695,759
Reply dated May 8, 2006
to Office Action of February 10, 2006
Page 17 of 17

Docket No.: 0425-1062P

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: May 8, 2006

Respectfully submitted,

By 
Terrell C. Birch
Registration No.: 19,382
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant